

**H 3381 PCT/US**  
**Serial No. 09/787,248**

**Status of Claims**

Claims 15 to 35 will be pending after entry of the present amendment. Claims 11 to 14 have been deleted and Claims 15, 22, 27, 30 and 33 have been amended. Claims 12-14 have been objected to as being in improper form, Claims 11-14, 22 and 27-33 have been rejected under 35 USC§ 112 as being indefinite, Claims 15-17, 19-26 and 30-33 have been rejected under 35 USC§ 102(e) or 35 USC§ 103(a), Claim 18 has been rejected under 35 USC§ 103(a) and Claims 27-29 and 34-35 have been rejected under 35 USC§ 103(a).

**Amendments**

The specification has been amended to correct several informalities pointed out by the Examiner. Specifically at page 5, line 24, "3" has been replaced by "4" and the page number at the bottom of the Abstract of Disclosure page has been deleted.

Claims 11-14 have been deleted to remove the improper form objection and the 35 USC§ 112 rejection.

Claim 22 has been amended to remove the objected to "paraffinic" term.

Claims 27 and 30 have been amended to more fully define the bonding process as recommended by the Examiner.

Claim 33 has been amended to replace "fiber" with "film" which has antecedent in Claim 30.

The above amendments are believed to remove the basis for the rejections under 35 USC§ 112.

**Response to rejections under 35USC 102(e) and 103(a) over Lindquist, et al.**

Claims 15-17, 19-26 and 30-33 have been rejected under 35 USC§ 102(e) or in the alternative 35 USC§ 103(a) in view of Lindquist, et al.

Applicants have amended Claim 15 to avoid the reference and further respectfully traverse these rejections for the reasons set forth below.

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**Summary of the Invention**

Applicants' invention relates to a sprayable hotmelt adhesive comprising:

- (A) 35 to 50% by weight of a poly- $\alpha$ -olefin or mixture of poly- $\alpha$ -olefins,
- (B) 5 to 30% by weight of at least one oil of a saturated hydrocarbon, and
- (C) 20 to 60% of at least one hydrocarbon resin

wherein the hotmelt adhesive has a viscosity of 500 mPas to 4,000 mPas at 150°C.

This combination is particularly useful for bonding of films to nonwoven materials wherein strong adhesion, especially wet adhesion, is required, such as, in sanitary products, e.g., disposable diapers and sanitary napkins.

**Rejection over Lindquist**

Applicants submit that Claims 15- 35 as amended are not anticipated under 35 USC 102(e) and are not obvious under 35 USC 103(a) in view of Lindquist as this patent does not disclose or suggest Applicants' combination of components by weight.

Lindquist disclose a hot melt adhesive comprising a combination of 15-30% by weight of a styrene-ethylene/butylene-styrene copolymer having a coupling efficiency of less than about 75%; 20-50% by weight of a tackifying resin; 30-50% by weight of a plasticizing oil and up to about 15% of a compatible polymer. The Lindquist adhesive components are chosen for their low cohesive strength (rather than applicants' high cohesive strength adhesive) which make them ideal where a seal/reseal or peelable/reclosable type closure is required.

Applicants have amended Claim 15 to set forth the preferred weight % of the poly- $\alpha$ -olefin( 35-50%) which differs from that of Lindquist(15-30%). This amendment is deemed to remove the 102(e) basis of rejection. With regard to the 103(a) rejection, applicants submit that Lindquist's choice of styrene copolymer is limited to those having high cohesive failure rates ( Table 1) an attribute not at all desired in applicants's adhesives which require high cohesive strength given their use in sanitary products. In view of the diametrically different characteristics and hence uses of the prior art

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adhesives versus those of applicants it is submitted that the Lindquist teaching does not make obvious the present invention.

**Response to the rejection of Claim 18 under 35 USC 103(a) over Srail**

Applicants submit that Claim 18 would not have been obvious to one skilled in the art under Section 103(a) over Srail as this patent does not disclose Applicants' novel combination of components in their adhesive composition.

Srail discloses hot melt compositions comprising a thermoplastic polymer, e.g., polyethylene or polypropylene, polybutene, ethylene-propylene copolymers having a propylene content of 25-75%; and a resin tackifier wherein the resin comprises 40-80% 1,3-pentadiene and 60-20% units derived from 2-methyl-2-butene. In the general disclosure it is indicated that an oil can be included. The disclosed utility of the adhesive is in laminating various materials.

Applicants would point out that the thermoplastic polymer disclosed by Srail does not make obvious Applicants' claimed poly-olefin mixture in Claim 18. Srail does not mention mixtures of thermoplastic polymers but rather individual polymers. The Examiner has read in mixtures into Srail's disclosure. As with Lindquist above, the Srail adhesives are composed for a different utility than applicants' adhesives, as a laminating coating rather than a joining means between substrate materials. In view of these differences Applicants submit that Srail does not make obvious Claim 18.

**Response to the rejection of Claims 27-29 and 34-35 under 35 USC 103(a) over Lindquist in view of Alper**

Applicants submit that Claims 27-29 and 34-35 would not have been obvious to one skilled in the art under Section 103(a) over Lindquist in view of Alper as the addition of Alper to Lindquist does not cure the defects pointed out in Lindquist's disclosure.

Alper discloses hot melt adhesives comprising 15-40% of a styrene-isoprene block copolymer, 40-70% of a tackifying resin, 5-30% of a plasticizing oil, 0-5% of a

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petroleum derived wax and 0.1-2% of a stabilizer. The disclosed utility is as an adhesive for use bonding polyethylene film to, e.g., nonwovens.

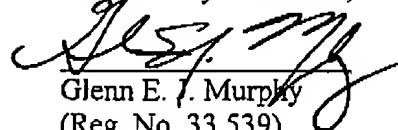
Applicants above have pointed out the deficiencies in the disclosure of Lindquist versus the present invention, most importantly in the difference in the weight percent of the olefinic component and the nature of said component, i.e., its low cohesive strength.

The addition of Alper does not cure the defects since the copolymer disclosed by Alper is not a poly- $\alpha$ -olefin even though it presumably has a high or at least higher cohesive strength than the polymer chosen by Lindquist. So although the secondary reference discloses the correct adhesive utility (use in making sanitary products), it uses a completely different copolymer than Applicants to achieve the end product. For these reasons it is submitted that the combination of references does not make obvious Applicants' claimed invention.

### CONCLUSION

Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record and request withdrawal of all outstanding rejections. Early and favorable notification of allowance of all pending claims is earnestly requested.

Respectfully submitted,



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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**In the claims:**

Claims 15, 22, 27, 30 and 33 have been amended as shown below:

15. (Amended) A sprayable hotmelt adhesive comprising:

A) [30]35 weight percent to [70]50 weight percent of one or more poly- $\alpha$ -olefins, wherein the poly- $\alpha$ -olefin or mixture of poly- $\alpha$ -olefins has a softening point of 70°C to 130°C and a melt viscosity at 190°C of 1,000 mPas to 20,000 mPas;

B) 5 weight percent to 30 weight percent of at least one oil; and

C) 20 weight percent to 60 weight percent of at least one hydrocarbon resin having a softening range of 70°C to 140°C;

wherein the hotmelt adhesive has a viscosity of 500 mPas to 4,000 mPas at 150°C.

22. (Amended) The holt melt adhesive of claim 15, wherein the [paraffinic] oil comprises a medicinal white oil.

27. (Amended) A method of bonding sanitary products comprising (a) applying the hotmelt adhesive of claim 15 to one or more substrate materials suitable for a sanitary product and (b) contacting the substrate materials to be bonded to provide a composite sanitary product.

30. (Amended) A method of bonding [films] a film and a nonwoven material comprising (a) applying to [a] the film or nonwoven, the hotmelt adhesive of claim 15 at an application temperature ranging from 120°C to 180°C and at an application weight ranging from 2g/m<sup>2</sup> to 10g/m<sup>2</sup> and (b) contacting the film and nonwoven material to be bonded to provide a composite material.

33.(Amended) The method of claim 30 wherein the [fiber] film is a polyolefin film, [a nonwoven, or combinations thereof.]